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497 starts from Cheng-yang-men Station in Peking, passing through Tientsin, Te-chou, Tsinan, T'ai-an, Hsü-chou, Nanking, Chen-chiang, Wu-hsi, Soochow, and reaches Shanghai. The journey takes about thirty-one hours and thirty-five minutes, covering a distance of 1,465 kilometers.[6] The Shanghai-Canton through-express train starts from Shanghai, passing through Hangchow, Chin-hua, Ying-t'an, Chu-chou, Heng-yang, Shao-kuan, and reaches Canton. The journey takes forty-three hours and twenty-four minutes, covering a distance of 1,822 kilometers.[7]

II. HIGHWAY ROUTES IN EAST CHINA

• 491 The exact length of the highway network in East China is difficult to determine, because (1) the provincial reports on the extent of highways in this region differ from those made by national surveys, (2) no distinction is made between provincial roads and country roads, (3) there is a lack of consistency in reports concering the completion of the construction of roads and the number of roads opened or closed to traffic. In the present study, all the major national highways which pass through the East

6. Ibid., p. 85.
7. Ibid.

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Table 2.

National Highways of the East China Region*
(unit: km.-kilometers
mi.-miles)

491

Name & Number	Terminal	Route	Length
Basic 1	Shanghai--Lhasa	Shanghai, Nanking, Wuhu Anch'ing	5,221 km. (3,262 mi.)
Basic 3	Hami--Hweerhkwoan	Foochow, Kut'ien, Chiuyang, Shaowu	5,385 km. (3,365 mi.)
Longitudinal			
No. 1	Hsian--Shanhaikwan	Nanp'ing, F'uch'eng, Nanchow, Wuhsing, Nanking, Hsuiyen, Ch'engch'eng, Tsinan	4,297 km. (2,686 mi.)
No. 2	Ipeitow--Chouchiak'ou	Anch'ing, T'ungch'eng Liuan, Chengyangkuan	2,042 km. (1,276 mi.)
Lateral			
No. 1	Amoy--Hunanhsien	Amoy, Lungch'i, Lungyen, Ch'angting	1,981 km. (1,201 mi.)
No. 2	Shanghai--T'ienshengch'iao	Shanghai, Nangchow Tunch'i, Ch'iuan	2,782 km. (1,739 mi.)
No. 3	Lhasahsang--Lanch'eng	Lhasahsang, Haimen, Nant'ung Chiangtu, Liuan	3,063 km. (1,913 mi.)
No. 4	Liuyhkang--Hingt'akai	Liuyhkang, Kuanyin, Shuyang, Hsiehsien	5,659 km. (3,537 mi.)
No. 5	Taingtao--Hinghsia	Taingtao, Weihsien, Tsinan, Chihe, Linch'ang	1,949 km. (1,218 mi.)
Longitudinal			
No. 2			
Branch 1	Shehsien--Yuhe	Yuhe, Hsiench'eng, Hinghsu, Chihch'i	242 km. (151 mi.)
Lateral			
No. 2			
Branch 2	Tungchia--Tungyuan	Tungchia, Ch'ingt'ien, Liuhsi, Lungyu	660 km. (412 mi.)
Branch 3	Haiangshan--Hangchow	Haiangshan, Hinghai, Tsao-o	257 km. (160 mi.)
No. 6			
Branch 1	Weihsien--Weihaiwei	Weihsien, Ch'ang-i, Hwangheien, Chefoo	480 km. (300 mi.)
		Total	32,947 km. (20,592 mi.)

*Kuo-tao Wang /The National Highway Network/, Hsing-cheng-yuan, Hsin-wen-chu /Bureau of Information, Executive Yuan/, Nanking, 1947, pp. 8-30.

(Table 2 faces p. 844.)

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491 China Region and some of the essential inter-provincial highways connecting important cities and towns in this region are discussed.

The total length of highways[8] of East China was estimated at 27,494 kilometers (17,184 miles) in 1951. The following table shows the main national highways passing through the East China Region:

8. Mao Shou-chin, Kung-lu Chiang-shih [General Information on Highways], Shanghai, Jen-min Ch'u-pan-she, 1951, p. 6.

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Table 3.

491 The Principal Inter-provincial Highways of East China*
(unit: km-kilometers
mi-miles)

Highway	Terminals	Length
Chi--Tai	Tsinan--Taierhchuang	492 km. (307 mi.)
Ning--Kan	Nanking--Changyangmiao	475 km. (297 mi.)
Fu--Hsia	Foochow--Amoy	298 km. (186 mi.)
Fu--Chiao	Foochow--Chiaowei	298 km. (186 mi.
Hsia--Ai	Amoy--Ailing	392 km. (245 mi.)
Ou--P'eng	Chienou--P'engk'ou	333 km. (208 mi.)
Ning--Hang	Tangshan--Hangchow	323 km. (202 mi.)
Ning--Hu	Nanking--Shanghai	351 km. (219 mi.)
Hu--Hang	Shanghai--Hangchow	200 km. (130 mi.)
Hang--Ning	Hangchow--Ningpo	---
Hang--Shao	Hangchow--Shaohsing	214 km. (134 mi.)
Wu--Ch'ing	Wu--Ch'ingyang	---
Wu--Tun	Wuhu--Tunch'i	---
P'u--Ho	P'uk'ou--Hopei	---
Wan--Kan	Hopei--Anch'ing--Nanchang	---
Fu--Cheng	Fuyang--Chengyangkuan	---
Fu--Pang	Fuyang--Pangpu	---
Su--Wen	Suhsien--Wenchou	317 km. (198 mi.)
Hsü--Huai	Hsüchou--Huaiyin	234 km. (146 mi.)
Hai--Ch'ing	Lienyünkang--Ch'inghaichi	361 km. (226 mi.)
	Total	4,297 km. (2,686 mi.)

*Fei-chü Ti Kung-lu Chiao-t'ung /The Highway Transportation of Communist China/, Taipei, The Central Committee of the Chinese Nationalist Party, 1953, pp. 24-27.

(Table 3 faces p. 845)

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491 There are numerous provincial and hsien roads in East China. The following table shows some of the important inter-provincial highways in East China:

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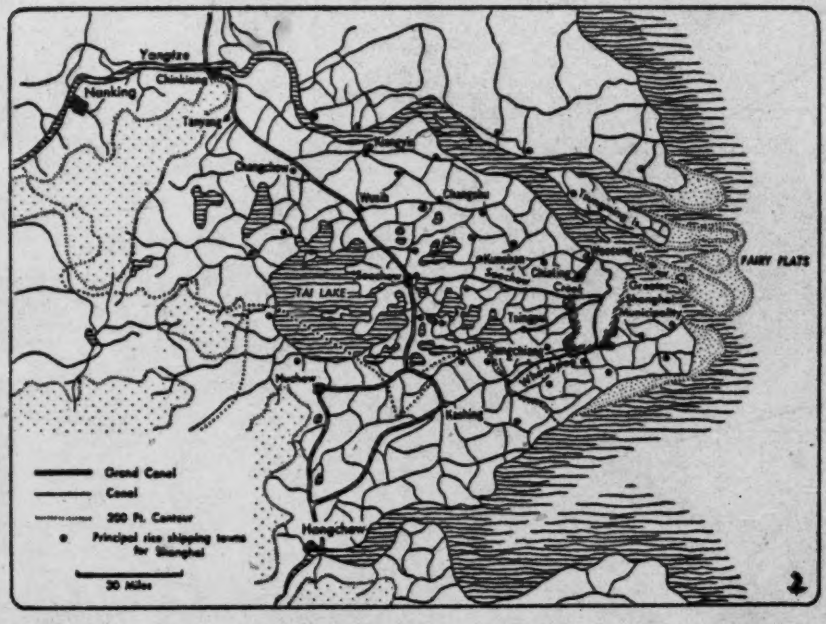
village or town entirely by water, and in most cases in no other way. According to existing estimates,[3] and on the basis of the incomplete cartographic data, the delta area must contain at least half a million miles of canalized or artificial waterways. The railway between Shanghai and Nanking includes in its 193 miles 164 bridges over navigable rivers or canals.



Map 5. Waterways of the Yangtze Delta. All waterways shown are navigable. Provincial boundaries are indicated by a dotted line.

The use of water routes is reflected in the sparseness of roads compared with other level areas of China and in the fact that such roads as exist run in most cases at right angles to major waterways. In addition, carts and barrows are scarce in the Yangtze delta, in marked contrast with other areas of China, or with most pre-industrial regions. Traditional Chinese bridges in the delta area are nearly all of the single span hump-backed type, reflecting the virtual absence of wheeled traffic as well as the need to provide adequate clearance over waterways for the passage of masted vessels.

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442 to keep healthy in China, and nearly every foreigner in Shanghai
439 rode, hiked, or took part in team sports.

The Chinese were amazed at this waste of calories. "'Belong foreign man custom' they would say as they turned to their diet of rice and cabbages," according to the memoirs of an early foreign resident.[22] Certainly the foreigners ate well, but while they brought spirits and special foods from home at great expense, the bulk of their food came from the delta area, according to the records of the same early resident, who was for a time during the 1870's in charge of the mess at one of the foreign firms and lists the sources and prices of the most important items which supplied it.[23] Foreign merchants and assistants would often be gone for weeks at a time on shooting excursions in the hinterland. Wherever they wanted to go in the delta area they found they could travel by houseboat, to the smallest village or the most remote bird-feeding grounds. And wherever they went they found these waterways clogged with Chinese craft carrying both domestic and foreign goods to and from Shanghai.[24]

503 W. H. Medhurst, an early British missionary (and later consul) at Shanghai, took a trip into the tea and silk districts of Kiangsu, Chekiang, Anhwei, and Kiangsi in 1845, disguised as a Chinese. His account of the trip laid emphasis on the waterways of this region, and since his journey never took him far from the waterways of the delta or of the Yangtze system, he attributed what he saw over this large area to the whole of China:

> Canals have been dug in all directions, and spread like veins and arteries to almost every part of the empire. As far as the experience of this writer goes, the Chinese have no walled cities or large towns except in places which are accessible by water.[25]

● [491] He noted that the major canals, used by grain junks, averaged about 40 feet wide and 6 to 8 feet deep, and that bridges over them were at least 20 feet above the surface of the water at the center of the arch so that the grain junks could pass under them with their masts lowered.

361 By 1863, the original foreign leasehold at Shanghai of 43 acres had been expanded through agreements with the taotai to a total of

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497 railways (exclusive of Manchuria).* The role of railways in the growth of Shanghai has clearly been minor, and they have never become large volume carriers on a Western scale, despite their connections with most of the several large cities in the delta, and despite the relatively great agricultural and industrial productivity of the lower Yangtze basin. .

491 The highway pattern is also relatively little developed. Two roads run south from Shanghai to Hangchow (both opened to traffic in 1932), and one runs north to Nanking. A large proportion of the highway mileage runs beside the railway lines, which makes the highways less useful than if they ran independently of or as feeders for the railways. The northern and southern highway routes are joined by a road from Kashing to Soochow, but the few remaining roads are either short-distance feeders or dead ends. There is no direct road connection between the major cities of Soochow and Wusih or Nanking. With minor exceptions in the vicinity of Shanghai, none of these surfaces were paved, and nearly all of the mileage is two-lane only.

494 The paucity of roads is presumably not due either to construction difficulties or to lack of general trade volume, although level ground in this area is usually accompanied by a dense network of natural and artificial waterways over which bridges must be built. The roads were constructed primarily for tourists and for general automobile travel rather than for commercial haulage. At least two of the major links (the shore road from Hangchow to Shanghai and the northern road from Shanghai to Soochow) were legally closed to vehicles over three tons gross weight from the time of their construction.[3] Due partly to the high cost of fuel, trucks, and parts, and partly to the generally pre-industrial nature of the economy, the volume of truck haulage on all of these roads has remained slight.[4]

505 Within the delta, however, and within most of the Yangtze basin, goods can move so easily and cheaply by water that there is little

496 * The total length of railways in China proper in 1936 was 9,712 kilometers, of which the two lines discussed above accounted for 753 kilometers (including sidings, loops, branches, and 112 kilometers of second track in and on the outskirts of Shanghai, Nanking, and Hangchow), or 8.3 per cent.[2]